Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(CURRENTLY AMENDED)** A 3D scanning device comprising :

a digital light encoding unit comprising a digital micromirror device for encoding a succession of structural light signals onto a light beam directed to an object, a structure of said signal being selected such that distortions thereof by a contoured object reveal three-dimensional information of said contour;

a detector synchronized with said digital light processing unit for detecting reflections of said light beam from said ~~object,~~ object; and

a decoder for determining a 3D shape of said object from distortions of said signal in said detected reflections;

wherein for each structural light signal, said detector is configured to pass a single bit of data to said decoder per pixel of the detected image.

2. **(CURRENTLY AMENDED)** The 3D scanning device of claim 1, wherein said structural light signals ~~rapidly changing time signal~~ comprises binary pattern elements.

3. **(CURRENTLY AMENDED)** The 3D scanning device of claim 2, wherein said detector comprises a plurality of sensor pixels, and each sensor pixel is configured to output a binary signal indicating said ~~detecting~~ detected reflections.

4. **(CURRENTLY AMENDED)** The 3D scanning device of claim 2, wherein said succession of structural light signals ~~rapidly changing time signal~~ defines a sequence of time frames.

5. **(CURRENTLY AMENDED)** The 3D scanning device of claim 4, wherein said detector comprises a plurality of sensor pixels, and each sensor pixel is configured to output a single bit per time frame indicating said ~~detecting~~ detected reflections.

6. **(CURRENTLY AMENDED)** The 3D scanning device of claim 1, further comprising a preprocessor for thresholding and encoding data received at ~~pixels of~~ said detector ~~thereby to recover said binary data~~.

7. **(CURRENTLY AMENDED)** A method of real time three-dimensional scanning of an object, comprising:

directing a light beam at said object via a digital micromirror device;

operating said digital micromirror device to modulate a rapidly changing structural light signal onto said beam;

detecting a reflection of said beam at a detector synchronized with said beam ;

passing a single bit of data to a decoder for each pixel of said reflection; and

decoding said reflection to determine depth information of said object.

8. **(ORIGINAL)** The method of claim 7, wherein said rapidly changing structural light signal comprises a binary pattern element.

9. **(ORIGINAL)** The method of claim 8, wherein said detector comprises a plurality of sensing pixels, and each pixel sends a binary signal for said decoding .

10. **(ORIGINAL)** The method of claim 8, wherein said rapidly changing structural light signal defines time frames, wherein said detector comprises a plurality of sensing pixels and each pixel sends a single bit per time frame for said decoding.

11. **(CURRENTLY AMENDED)** A 3D scanning device comprising :

a beam source for producing a light beam for projection towards an object;

a digital light binary signal encoding unit connected downstream of said beam source, for modulating a rapidly changing structural light signal onto said light beam, said signal comprising a structure selected for distortion by a three-dimensional ~~contour,~~contour;

a detector comprising sensor pixels, synchronized with said digital light binary signal encoding unit, for detecting reflections of said light beam from said object at said sensing pixels as binary ~~data,~~ data; and

a binary decoder for determining a 3D shape of said object from distortions of said time signal in said detected reflections.

12. **(ORIGINAL)** The 3D scanning device of claim 11, further comprising a preprocessor associated with said detector for thresholding and encoding data of said detected reflections at said sensing pixels, thereby to recover said binary data.

13. **(ORIGINAL)** The 3D scanning device of claim 11, wherein said digital light binary signal encoding unit comprises a digital micromirror device to modulate said binary data onto said signal.

14. **(CURRENTLY AMENDED)** A method of real time three-dimensional scanning of an object, comprising:

directing a light beam at said object;

modulating a rapidly changing shape signal onto said beam, said shape signal comprising a shape selected such that distortion thereof is indicative of a three-dimensional contour of said object;

synchronously detecting a reflection of said beam at a detector synchronized with said modulating of said beam;

passing binary signals from said detector to a decoder; and

decoding, using said decoder, said ~~reflection~~ binary signals to extract distortion information of said ~~modulated binary time~~ shape signal, therefrom to determine information ~~of~~ pertaining to said three-dimensional contour of said object.

15. **(CURRENTLY AMENDED)** A method of real time three-dimensional scanning of an object, comprising:

directing a light beam at said ~~object,~~object;

modulating a light frame and a dark frame onto said light beam in successive frames prior to reaching said ~~object,~~object;

detecting, using a detector, reflections ~~from said object~~ of said successive frames from said object ~~at a detector~~ to obtain a light frame detection level and a dark frame detection ~~level,~~level;

calculating a mid level between said light frame detection level and said dark frame ~~detection level,~~level;

setting said mid level as a detection threshold at said ~~detector,~~detector;

modulating a plurality of structural light signals onto said beam in further successive ~~frames,~~frames;

detecting said successive frames at said detector using said detection threshold, thereby to provide binary detection of said structured light ~~signal,~~signal; and

determining a three-dimensional structure of said object from detected distortions in said structured light signals.

16. **(CURRENTLY AMENDED)** The method of claim 15, wherein said detecting by the detector is synchronized with said modulating.

17. **(ORIGINAL)** The method of claim 15, wherein said modulating is carried out using a digital micromirror device.